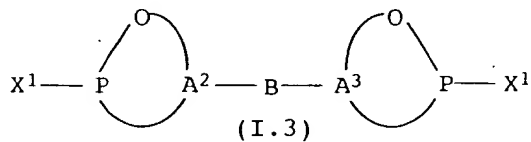
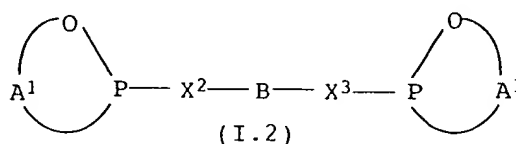
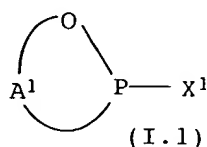


CLEAN VERSION OF ALL CLAIMS

A' 1. A catalyst comprising at least one complex of a metal of transition group VIII comprising at least one monodentate, bidentate or multidentate phosphinamidite ligand of the formulae I.1, I.2 and/or I.3



where

A¹ together with the phosphorus atom and the oxygen atom to which it is bound form a 5- to 8-membered heterocycle onto which one, two or three cycloalkyl, aryl and/or hetaryl groups may be fused, where the fused-on groups may each bear, independently of one another, one, two or three substituents selected from among alkyl, alkoxy, halogen, nitro, cyano, carboxyl and carboxylate,
A² and A³ are, independently of one another, part of a

heterocycle as defined for A^1 which is substituted by B,
 X^1 is a 5- to 8-membered heterocycle which contains at least
one nitrogen atom bound directly to the phosphorus atom,
where the heterocycle may additionally contain one or two
heteroatom(s) selected from among N, O and S and/or one, two
or three cycloalkyl, aryl and/or hetaryl groups may be fused
onto the heterocycle, where the heterocycle and/or the
fused-on groups may each bear, independently of one another,
one, two or three substituents selected from among alkyl,
cycloalkyl, aryl, alkoxy, cycloalkoxy, aryloxy, acyl,
halogen, trifluoromethyl, nitro, cyano, carboxyl,
carboxylate, alkoxycarbonyl and NE^1E^2 , where E^1 and E^2 may be
identical or different and are each alkyl, cycloalkyl or
aryl,

X^2 and X^3 are, independently of one another, a heterocycle as
defined for X^1 which is substituted by B,

B is either a carbon-carbon single bond or a divalent bridging
group,

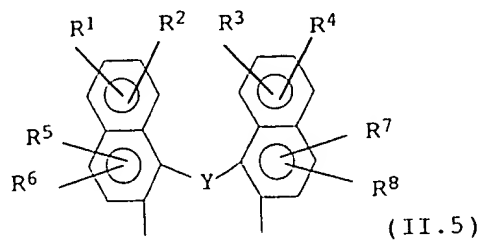
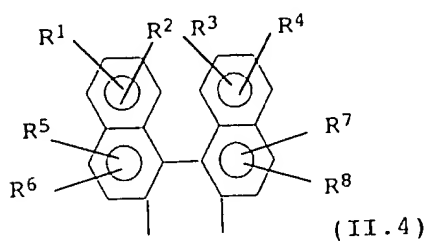
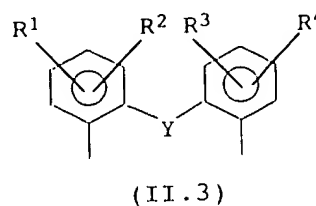
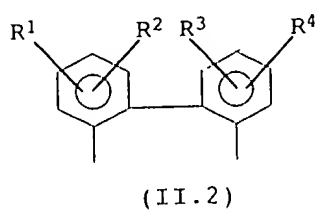
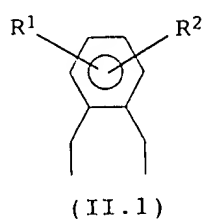
or salts or mixtures thereof.

2. A catalyst as claimed in claim 1, wherein B is a
bridging group of the formula -D-, -(CO)-D-(CO)- or -(CO)-(CO)-,
in which

D is a C_1 - C_{10} -alkylene bridge which may have one, two, three or
four double bonds and/or bear one, two, three or four
substituents selected from among alkyl, alkoxy, halogen,

nitro, cyano, carboxyl, carboxylate, cycloalkyl and aryl, where the aryl substituent may additionally bear one, two or three substituents selected from among alkyl, alkoxy, halogen, trifluoromethyl, nitro, alkoxycarbonyl or cyano, and/or the alkylene bridge D may be interrupted by one, two or three nonadjacent, substituted or unsubstituted heteroatoms, and/or the alkylene bridge D may have one, two or three aryl and/or hetaryl groups fused onto it, where the fused-on aryl and hetaryl groups may each bear one, two or three substituents selected from among alkyl, cycloalkyl, aryl, alkoxy, cycloalkoxy, aryloxy, aryl, halogen, trifluoromethyl, nitro, cyano, carboxyl, alkoxycarbonyl and NE^1E^2 , where E^1 and E^2 may be identical or different and are each alkyl, cycloalkyl or aryl.

3. A catalyst as claimed in claim 2, wherein D is a radical of the formula II.1, II.2, II.3, II.4 or II.5



where

Y is O, S, NR⁹, where

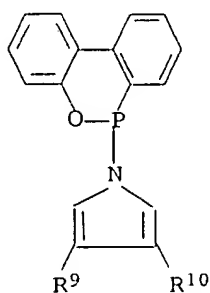
R⁹ is alkyl, cycloalkyl or aryl,

or Y is a C₁-C₃-alkylene bridge which may have a double bond and/or an alkyl, cycloalkyl- or aryl substituent, where the aryl substituent may bear one, two or three substituents selected from among alkyl, alkoxy, halogen, trifluoromethyl, nitro, alkoxycarbonyl and cyano,

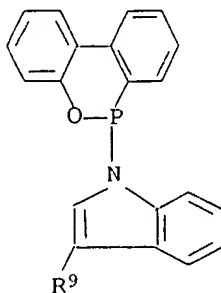
or Y is a C₂-C₃-alkylene bridge which is interrupted by O, S or NR⁹,

R¹, R², R³, R⁴, R⁵, R⁶, R⁷ and R⁸ are, independently of one another hydrogen, alkyl, cycloalkyl, aryl, alkoxy, halogen, trifluoromethyl, nitro, alkoxycarbonyl or cyano.

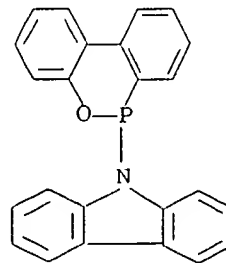
4. (amended) A catalyst as claimed in claim 1, wherein the phosphinamidite ligand is selected from among the ligands of the formulae IIIa to IIIi



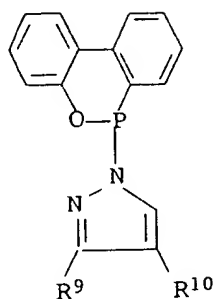
(IIIa)



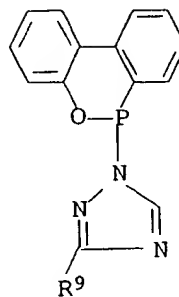
(IIIb)



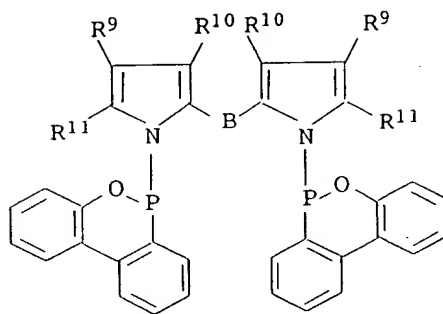
(IIIc)



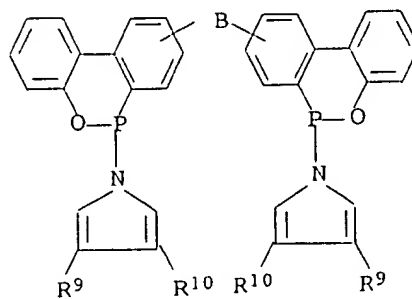
(IIIId)



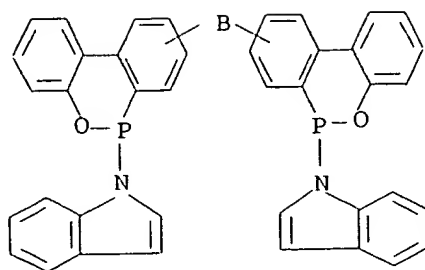
(IIIe)



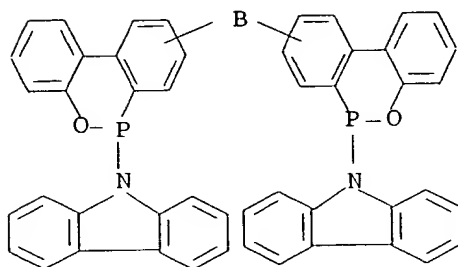
(IIIIf)



(IIIIg)



(IIIh)



(IIIi)

where

R^9 and R^{10} are, independently of one another, hydrogen, methyl, ethyl or trifluoromethyl,

R^{11} is hydrogen or COOC_2H_5 ,

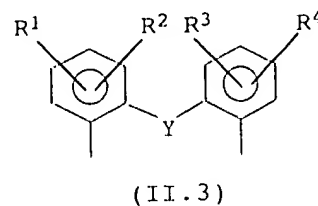
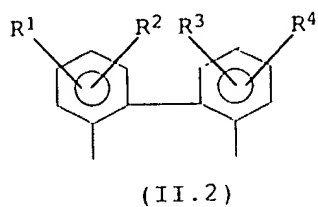
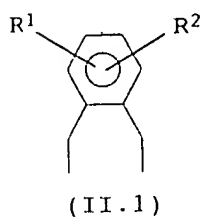
B is CH_2 , $\text{C}(\text{CH}_3)_2$, $(\text{CO})-(\text{CO})$ or $(\text{CO})-\text{D}-(\text{CO})$,

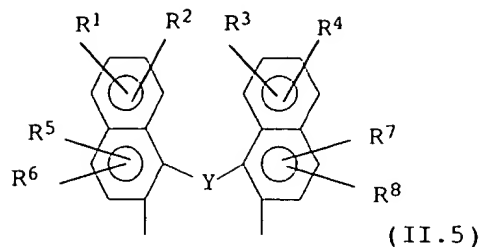
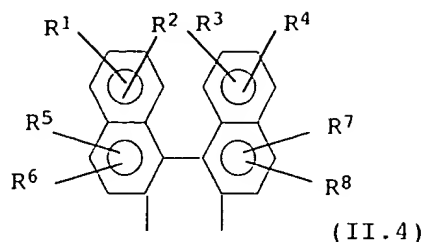
where B in the formulae IIIg, IIIh and IIIi can in each case be bound in the o,o positions, m,m positions or p,p positions relative to the phosphorus atoms and

D is a C_1-C_{10} -alkylene bridge which may have one, two, three or four double bonds and/or bear one, two, three or four substituents selected from

among alkyl, alkoxy, halogen, nitro, cyano, carboxyl, carboxylate, cycloalkyl and aryl, where the aryl substituent may additionally bear one, two or three substituents selected from among alkyl, alkoxy, halogen, trifluoromethyl, nitro, alkoxycarbonyl or cyano, and/or the alkylene bridge D may be interrupted by one, two or three nonadjacent, substituted or unsubstituted heteroatoms, and/or the alkylene bridge D may have one, two or three aryl and/or hetaryl groups fused onto it, where the fused-on aryl and hetaryl groups may each bear one, two or three substituents selected from among alkyl, cycloalkyl, aryl, alkoxy, cycloalkoxy, aryloxy, aryl, halogen, trifluoromethyl, nitro, cyano, carboxyl, alkoxycarbonyl and NE^1E^2 , where E^1 and E^2 may be identical or different and are each alkyl, cycloalkyl or aryl, or

D is a radical of the formula II.1, II.2, II.3, II.4 or II.5





where

Y is O, S, NR⁹, where

R⁹ is alkyl, cycloalkyl or aryl,

or Y is a C₁-C₃-alkylene bridge which may have a double bond and/or an alkyl, cycloalkyl- or aryl substituent, where the aryl substituent may bear one, two or three substituents selected from among alkyl, alkoxy, halogen, trifluoromethyl, nitro, alkoxy carbonyl and cyano,

or Y is a C₂-C₃-alkylene bridge which is interrupted by O, S or NR⁹,

R¹, R², R³, R⁴, R⁵, R⁶, R⁷ and R⁸ are, independently of one another hydrogen, alkyl, cycloalkyl, aryl, alkoxy, halogen, trifluoromethyl, nitro, alkoxy carbonyl or cyano.

5. (amended) A catalyst as claimed in claim 1, wherein the metal of transition group VIII is selected from among cobalt, ruthenium, iridium, rhodium, nickel, palladium and platinum.

Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	

1000

1000

1000

1000



END
A₁

Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	